

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO COMMERCIAL

Report Number: P581419

Luminaire Tested: **HC407D010-HM40525827-41WDW**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P581419
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-9)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC407D010-HM40525827-41WDW
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WIDE DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 786.7 lumens
Efficiency: N/A
Efficacy: 98.3 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.07 / 1.04
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

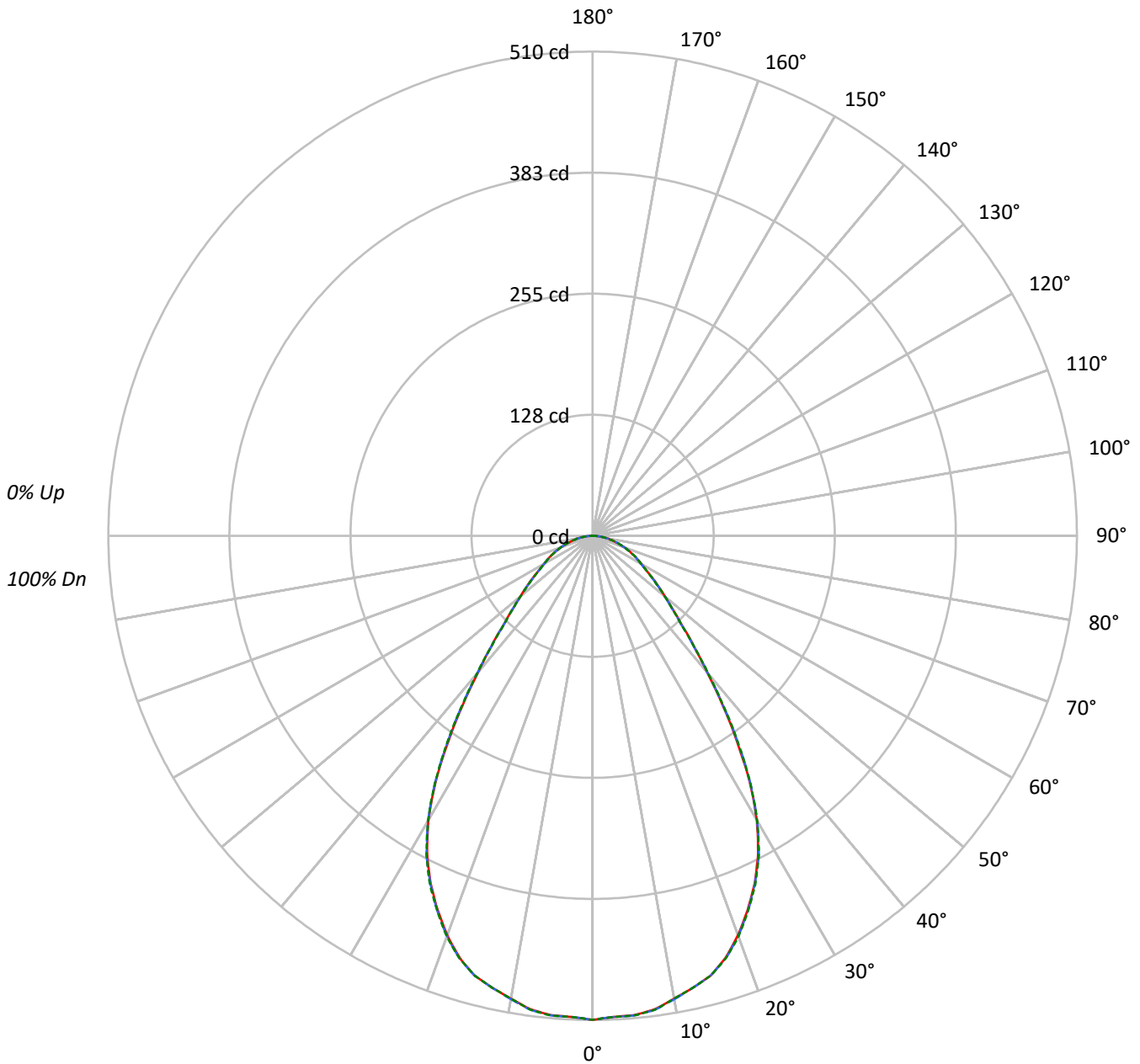
Input Watts (W): 8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|-----|
| RF | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 20 | | | | |
| RC | 80 | | | | 70 | | | | 50 | | | | 30 | | | | 10 | | | 0 | |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | | | 100 |
| 1 | 111 | 107 | 104 | 101 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 94 | 92 | 90 | 89 | | | 89 |
| 2 | 103 | 97 | 91 | 87 | 101 | 95 | 90 | 86 | 91 | 87 | 84 | 88 | 85 | 82 | 85 | 83 | 80 | 78 | | | 78 |
| 3 | 96 | 87 | 81 | 76 | 94 | 86 | 80 | 75 | 83 | 78 | 74 | 81 | 76 | 72 | 78 | 74 | 71 | 69 | | | 69 |
| 4 | 90 | 80 | 72 | 67 | 87 | 78 | 72 | 66 | 76 | 70 | 66 | 74 | 69 | 65 | 72 | 67 | 64 | 62 | | | 62 |
| 5 | 84 | 73 | 65 | 60 | 82 | 72 | 65 | 59 | 70 | 64 | 59 | 68 | 63 | 58 | 66 | 62 | 58 | 56 | | | 56 |
| 6 | 78 | 67 | 59 | 54 | 77 | 66 | 59 | 54 | 64 | 58 | 53 | 63 | 57 | 53 | 61 | 56 | 53 | 51 | | | 51 |
| 7 | 73 | 62 | 54 | 49 | 72 | 61 | 54 | 49 | 60 | 53 | 49 | 58 | 53 | 48 | 57 | 52 | 48 | 46 | | | 46 |
| 8 | 69 | 57 | 50 | 45 | 68 | 57 | 50 | 45 | 55 | 49 | 45 | 54 | 49 | 44 | 53 | 48 | 44 | 42 | | | 42 |
| 9 | 65 | 53 | 46 | 41 | 64 | 53 | 46 | 41 | 52 | 45 | 41 | 51 | 45 | 41 | 50 | 45 | 41 | 39 | | | 39 |
| 10 | 61 | 50 | 43 | 38 | 60 | 49 | 43 | 38 | 48 | 42 | 38 | 48 | 42 | 38 | 47 | 42 | 38 | 36 | | | 36 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 62882 | 62882 | 62882 |
| 5° | 62750 | 62800 | 62800 |
| 10° | 61998 | 62073 | 61998 |
| 15° | 61269 | 61269 | 61269 |
| 20° | 58753 | 58884 | 58963 |
| 25° | 54956 | 55024 | 55174 |
| 30° | 49237 | 49380 | 49380 |
| 35° | 39978 | 40279 | 40370 |
| 40° | 30158 | 30352 | 30416 |
| 45° | 23113 | 23026 | 23026 |
| 50° | 19036 | 18940 | 18940 |
| 55° | 16344 | 16215 | 16215 |
| 60° | 14579 | 14456 | 14456 |
| 65° | 13717 | 13717 | 13717 |
| 70° | 12767 | 12767 | 12767 |
| 75° | 11533 | 11819 | 11533 |
| 80° | 10939 | 10513 | 10939 |
| 85° | 9057 | 9057 | 9057 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 48.0 | 6.1 |
| 10°-20° | 134.4 | 17.1 |
| 20°-30° | 184.7 | 23.5 |
| 30°-40° | 166.1 | 21.1 |
| 40°-50° | 105.0 | 13.3 |
| 50°-60° | 68.5 | 8.7 |
| 60°-70° | 46.4 | 5.9 |
| 70°-80° | 26.1 | 3.3 |
| 80°-90° | 7.4 | 0.9 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 367.2 | 46.7 |
| 0°-40° | 533.3 | 67.8 |
| 0°-60° | 706.8 | 89.8 |
| 0°-90° | 786.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 786.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 510 | 510 | 510 | 510 | 510 | |
| 5° | 507 | 507 | 507 | 507 | 507 | 48 |
| 15° | 480 | 480 | 480 | 480 | 480 | 134 |
| 25° | 404 | 404 | 404 | 405 | 405 | 184 |
| 35° | 266 | 266 | 268 | 269 | 268 | 165 |
| 45° | 132 | 132 | 132 | 132 | 132 | 105 |
| 55° | 76 | 76 | 75 | 76 | 75 | 69 |
| 65° | 47 | 47 | 47 | 47 | 47 | 47 |
| 75° | 24 | 25 | 25 | 25 | 24 | 26 |
| 85° | 6 | 6 | 6 | 6 | 6 | 7 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 509.8 | 509.8 | 509.8 | 509.8 | 509.8 |
| 2.5° | 507.2 | 507.2 | 507.2 | 507.2 | 507.2 |
| 5° | 506.8 | 506.8 | 507.2 | 507.2 | 507.2 |
| 7.5° | 503.0 | 503.6 | 503.6 | 503.6 | 503.6 |
| 10° | 495.0 | 495.0 | 495.6 | 495.6 | 495.0 |
| 12.5° | 487.7 | 487.7 | 487.7 | 488.2 | 487.7 |
| 15° | 479.8 | 479.8 | 479.8 | 479.8 | 479.8 |
| 17.5° | 466.0 | 466.6 | 466.6 | 466.6 | 466.6 |
| 20° | 447.6 | 448.6 | 448.6 | 449.2 | 449.2 |
| 22.5° | 426.5 | 427.0 | 427.5 | 428.0 | 427.5 |
| 25° | 403.8 | 404.3 | 404.3 | 405.4 | 405.4 |
| 27.5° | 377.4 | 377.9 | 379.0 | 379.0 | 379.0 |
| 30° | 345.7 | 346.3 | 346.7 | 346.7 | 346.7 |
| 32.5° | 308.3 | 308.3 | 309.3 | 309.9 | 309.3 |
| 35° | 265.5 | 266.5 | 267.5 | 268.7 | 268.1 |
| 37.5° | 224.9 | 225.9 | 226.5 | 226.5 | 226.9 |
| 40° | 187.3 | 188.5 | 188.5 | 189.5 | 188.9 |
| 42.5° | 157.8 | 157.3 | 157.3 | 158.3 | 157.8 |
| 45° | 132.5 | 132.0 | 132.0 | 132.0 | 132.0 |
| 47.5° | 114.0 | 113.5 | 113.5 | 113.5 | 113.5 |
| 50° | 99.2 | 98.7 | 98.7 | 98.7 | 98.7 |
| 52.5° | 87.1 | 86.6 | 86.6 | 86.6 | 86.0 |
| 55° | 76.0 | 76.0 | 75.4 | 76.0 | 75.4 |
| 57.5° | 66.0 | 66.0 | 66.0 | 66.0 | 66.0 |
| 60° | 59.1 | 58.6 | 58.6 | 58.6 | 58.6 |
| 62.5° | 52.8 | 52.8 | 52.8 | 52.8 | 52.8 |
| 65° | 47.0 | 47.0 | 47.0 | 47.0 | 47.0 |
| 67.5° | 41.2 | 40.6 | 41.2 | 41.2 | 40.6 |
| 70° | 35.4 | 34.8 | 35.4 | 35.4 | 35.4 |
| 72.5° | 29.6 | 29.6 | 29.6 | 30.0 | 29.6 |
| 75° | 24.2 | 24.8 | 24.8 | 24.8 | 24.2 |
| 77.5° | 19.6 | 20.0 | 19.6 | 19.6 | 19.6 |
| 80° | 15.4 | 14.8 | 14.8 | 14.8 | 15.4 |
| 82.5° | 10.6 | 10.6 | 10.6 | 10.6 | 10.6 |
| 85° | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 |
| 87.5° | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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— 0°-180° - - 45°-225° - - - - 90°-270°







(END OF REPORT)